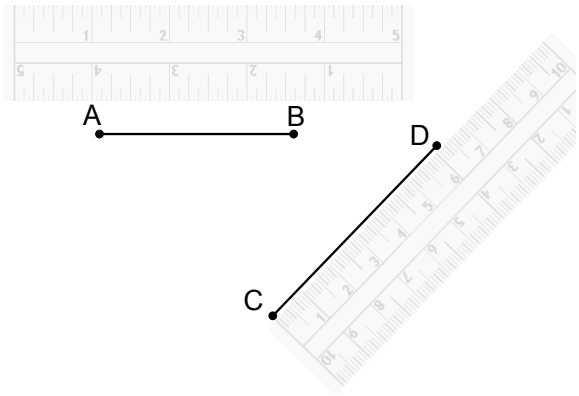
1.2 Use Segments and Congruence

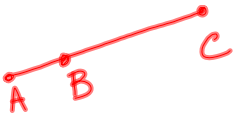
postulate or axiom-a rule that is accepted without proof

Postulate 1--Ruler Postulate--the points on a line can be matched one-to-one with the real numbers.

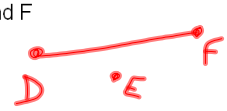


When three points are collinear, then you can say that one point is between the other two.

B is between A and C

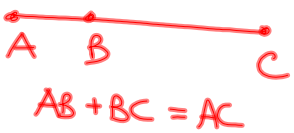


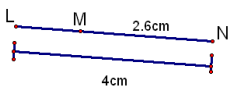
E is NOT between D and F



S.A.P.

Postulate 2--The Segment Addition Postulate--If B is between A and C, then AB + BC = AC.
If AB + BC = AC, then B is between A and C.



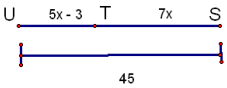


LM = 4 − 2.6 = 1.4cm

Find ST if T is between U and S and UT = 5x - 3 and ST = 7x

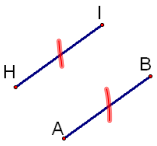
5x − 3 + 7x = 45

x = 4



ST = 28 units

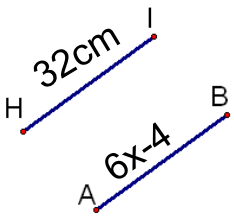
Congruent Segments--segments that have the same length



lengths are = $HI = AB$

$HI \rightarrow$ length of $\overline{HI}$

segments are ≅ $\overline{HI} \cong \overline{AB}$

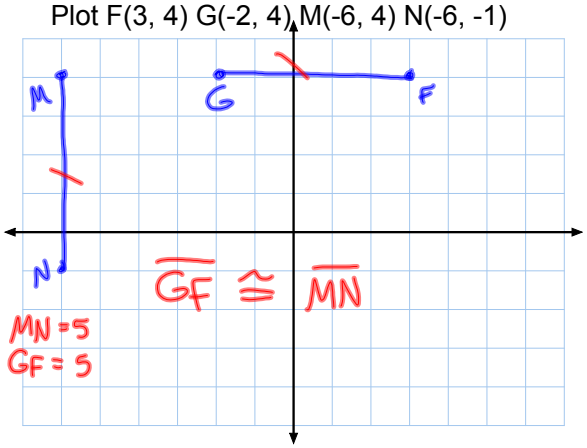


HI = AB

x = ?

6

Plot F(3, 4) G(-2, 4) M(-6, 4) N(-6, -1)



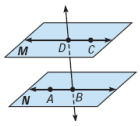
$\overline{GF} \cong \overline{MN}$

MN = 5

GF = 5

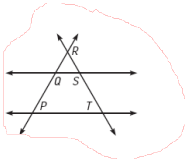
Decide whether the statement is *true* or *false*.

2. $\overleftrightarrow{BD}$ and $\overleftrightarrow{DC}$ intersect at point D.
3. $\overleftrightarrow{AB}$ and $\overleftrightarrow{BD}$ intersect at point A.
4. $\overleftrightarrow{BD}$ intersects plane M at point B.
5. $\overleftrightarrow{AB}$ and $\overleftrightarrow{DC}$ do not appear to intersect.
6. $\overleftrightarrow{BD}$ is the intersection of planes M and N.



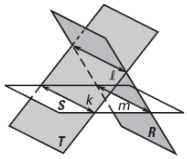
Naming Intersections of Lines **In Exercises 10–15, use the diagram at the right.**

10. Name the intersection of $\overleftrightarrow{PQ}$ and $\overleftrightarrow{TS}$.
11. Name the intersection of $\overleftrightarrow{QS}$ and $\overleftrightarrow{PT}$.
12. Name the intersection of $\overleftrightarrow{SQ}$ and $\overleftrightarrow{TR}$.
13. Name the intersection of $\overleftrightarrow{RS}$ and $\overleftrightarrow{PT}$.
14. Name the intersection of $\overleftrightarrow{RP}$ and $\overleftrightarrow{PT}$.
15. Name the intersection of $\overleftrightarrow{RS}$ and $\overleftrightarrow{ST}$



Use the diagram at the right.

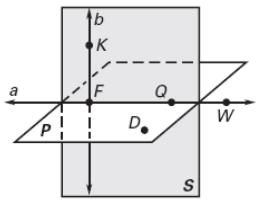
5. Name the intersection of planes S and T.
6. Name the intersection of planes T and R.
7. Name the intersection of planes R and S.



For use after Lesson 1.3, pages 14–20

Use the diagram at the right.

1. Name the points on plane S.
2. Name two lines.
3. Name the plane that contains point D.
4. Name three collinear points.
5. Decide whether the following statement is *true* or *false*. Points K, F, and D are coplanar.



HW
p12-13
#s 7-10,13,27-29